



Geothermal Energy

The Kujawski House

Description

The ultra-efficient, electrically-powered, geothermal heating-and-cooling system moves heat energy from the earth to the house, through a series of in-ground, polyethylene tubing loops. Heat gathered from the surrounding earth is transferred to the living areas of the house by a forced air system. For cooling, the process is reversed. While the system is running, it provides a bonus benefit by making hot water available at no additional cost. A geothermal system provides heating, cooling and domestic hot water at an efficiency of 360 to 400%, whereas conventional systems operate at efficiencies of 80 to 97%. Geothermal units are sized to meet a home's specific needs, with the result that cycling and wide temperature swings are practically eliminated.

Specifications

- 1,927 square foot house with a 1,927 square foot partially finished basement
- Constructed 1993 - located in Salem, Michigan
- 2x8 wood walk-out basement, insulated R-19
- 2x6 wood frame house, 7/16 OSB sheathing, vinyl siding, foam sealed
- Custom-fit fiberglass insulation, R-20 walls, R-38 ceilings
- 393 square feet of glass window area
- Water Furnace brand open-loop geothermal system
- To accommodate the water discharge from the system, a 150' by 80-foot pond was constructed

Energy Savings

The total for all geothermal heating, cooling and hot-water costs for the billing period of January 1995 through December 1995 was \$597.56. The geothermal system provides heating, cooling and domestic hot water for \$50 per month. Even in the coldest of winter months, the heating bill has never exceeded \$65.

For further information regarding this particular Energy Project contact:

Detroit Edison Heating-and-Cooling Information Center at 1-800-833-2786

*Feel free to contact us if you have any ideas
for case studies or other questions :*

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